EC 090 009

ED 123 818

AUTHOR TITLE

INSTITUTION

Waters, Betty

Articulation Base Program: *sh*, k and g, f and v.

Northern Illinois Univ., De Kalb. Dept. of

Communication Disorders.

PUB DATE

[74] 42p.

EDRS PRICE DESCRIPTORS

Mr-\$0.83 HC-\$2.06 Plus Postage.

*Articulation (Speech); Behavior Change; Exceptional Child Education; Expressive Language; *Language

Instruction; Operant Conditioning; *Phonetics; *Primary Education; *Program Descriptions; *Speech

Handicapped; *Speech Therapy

ABSTRACT

*Intended for clinicians working individually with children (in grades k-3) who have mild to moderate articulatory disorders, the guide provides information on an articulation based program to establish the target phoneme in structured speech in the therapy room. Material is divided into three sections according to the phoneme being focused on. Each section includes an outline of program procedures; program definitions; the listing of 30 items of a sound production task; a table on the steps in the articulation base program; prevocalic, intervocalic, and postvocalic pictures and key sentences; stories with key words; and a sample program recording sheet and speech response chart. It is noted that clinicians using the program should have knowledge of behavior modification principles, including the appropriate use of reinforcement schedules and the establishment of criterion levels. (SB)

articulation

US DEPARTMENT OF HEALTH.
EQUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRO
DOCED EXECTLY AS RECEIVED FROM
ATHE PERSON OR ORGANIZATION ORIGIN
ATING IT POINTS OF VIEW OR OPINIONS
STATEO DO NOT NECESSARILY REPRE,
SENT OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY

ase



by

Betty Waters, M.A., C.C.C. Clinical Supervisor

Department of Communication Disorders Northern Illinois University DeKalb, Illinois 60115



Preface

This program was written for student clinicians in the Department of Communication Disorders at Northern Illinois University. It is designed as a guide for clinicians working with children in individual therapy (kindergartenthird grade) who have mild to moderate articulatory disorders. The terminal objective of the program is to establish the target phoneme in structured speech in the therapy room. A transfer program to establish the target phonemes in conversational speech in the school and home environment should be initiated upon completion of this program.

Clinicians who use this program should be familiar with behavior modification principles, including the appropriate use of reinforcement schedules and the establishment of criterion levels, effective in learning. In order to fully understand the program, it would be helpful for the clinician to be familiar with the <u>Behavior Modification Articulation Program</u> developed by the Joint-County School System, Decorah, Iowa and Evaluating Speech Therapy Through Precision Recording by Donald E. Mowrer, <u>JSHD</u>, 34, 239-244 (1969). Portions of this program are adapted from both of these references.

Acknowledgements.

Special thanks are given to the following graduate students for their participation in developing this program:

Elaine Alzoa.

Orysia Protyniak

Margaret Feltes

Roberta Silver

Michelle Hirt

Martha Velett

Danna Loeh

'ARTICULATION BASE PROGRAM / [/

- I. Determine the base rate information and record it at the bottom of the Speech Response Chart under Testing Information.
 - A. Sample results of conversational speech sample (see Program Definitions)
 - B. Items results of Sound Production Task (page 5)
 - 1. Therapy is indicated when the conversational speech sample shows less than 80% correct production of the target phoneme and correct production of the Sound Production Task is less than 24.
- II. Shape sound in isolation (series A Step 1) and proceed through Series and Steps as outlined in the program.
- III. When beginning the new sound, it may be necessary to review several steps before proceeding with new steps. However, this is left up to the discretion of the clinician.
- IV. Criterion for Branching.
 If at any time the child's performance falls below an 80%
 correct response rate the clinician should branch.
- V. Recording Responses and Graphing
 - A. Record correct and incorrect responses on the Recording

 Sheet. Convert the scores into rates/minutes and plot the

 Total Response Rate and Error Response Rate on the

 Speech Response Chart.

- 1. Total Response Rate number of responses number of minutes in class
- 2. Error Response Rate <u>number of incorrect responses</u> number of min**utes** in class

An 80% or better correct response rate is indicated if the distance between the total response rate and the error response rate is two inches or more apart on the logarithmic graph (Speech Response Chart).

- VI. The program is terminated when series F is completed. Key words in stories are elicited through questions by the clinicians and the story is retold by the child at a level of 80% or better correct response rate.
- VII. Final Criterion Test administer the Sound Production Task.

 Criterion for passing is 24 out of 30 correct repetitions or reading of items. Engage the child in three minutes of conversational speech_relevant to_the stories in series F. Criterion for passing is 80% or better correct production of target phonemes.
 - - 1. Sample Cesults of conversational speech sample.
 - 2. Items results of Sound Production Task

-Program Definitions

Criterion - Suggested number of consecutive correct responses required to allow progression to the next step or series. Criterion levels may be adjusted by the clinic an

- Branching Repeating an earlier step or series or the use of appropriate supplementary work.
- 3. <u>Conversational Speech Sample</u> Counting of correct and incorrect target phonemes during a three minute period of the child's conversation. Clinician's remarks during this time should be restricted to the asking of leading-questions.
- 4. Sound Production Task A series of isolated sounds, syllables, words, phrases, and sentences which include the target phoneme.
- 5. CRF Continuous Reinforcement
- 6. <u>VR</u> Variable (ratio or interval) Reinforcement schedule as determined by the clinician.

30 Item Sound Production Task

- 1. / [/
- 2. she
- 3. /∫e/
- 4. /is/
- 5. /uʃ/
- 6. pushtoy
- 7. fishnet
- 8. distrag.
- 9. mústache
- 10 freshiy
- washcloth
- 12. dishes
- 13. sprishcar E
- % 14. " battles
- 15. ocean
- 16. vacation
- 17. We saw a good show.
- 18. I will shake your hand
- 18. I guess she did it.
- 20. I am sure I can go.

- 21. He has one black shoe.
- 22. The roof shook in the storm.
- 23. There is a deep ocean.
- 24. splash -
- 25. brashing
- 26. štation
- 27 shirt e
- 28. shower
- 29. keep-sharp
- 30. He has big shoulder.

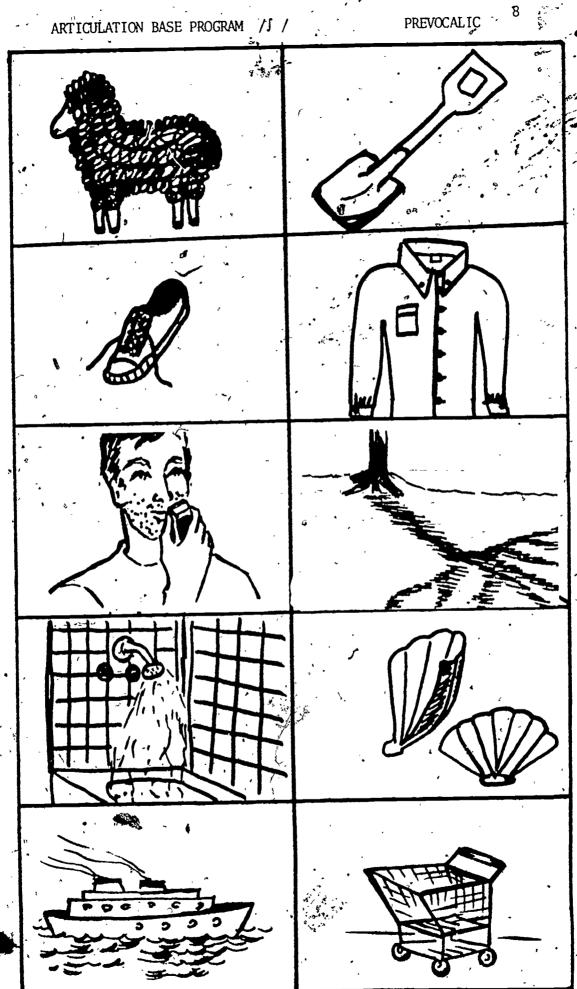
<u>Series</u>	Step	Stimulus	Schedule	Criterion
Α	1	Shape sound in isolation.	CRF -	, -
	2	Say / /*:	- CRF	15 .
	3	Say it by yourself.	CRF	15
B .	1	Say /-e/ Say it by yourself.	CRF CRF	3 5
	2	Say /e-/- Say it bý yourself.	CRF CRF	3 5
	. 3 .	Say / -e- / Say it by yourself.	CRF CRF	3 5.
	4	This exercise can be done with other vowels per need of client.		•
C .		Use the 10 / / pictures in prevocalic position in words. Say:	CRF	10
•	2.	'(Same 10 pictures) Now you say them.	∜R	10
	. 3	Now say them again faster.	VR 🐩	10 ·
. `	4 -	Present the pictures. Say: The	· VR.	. 10
	_ 5 ·	Now you say them.	· VR	10
	6	Present the pictures. Say: I see the	<u>v</u> r	10
•	. 7 .	Now you say them.	VR	/ 10· -
	8	Read or repeat key sentences.	٧Ř	10
D .	1	Use the 10 / / pictures in the intervocalic position in words.	*,"	
• ,	-	Say:	VR `	10.

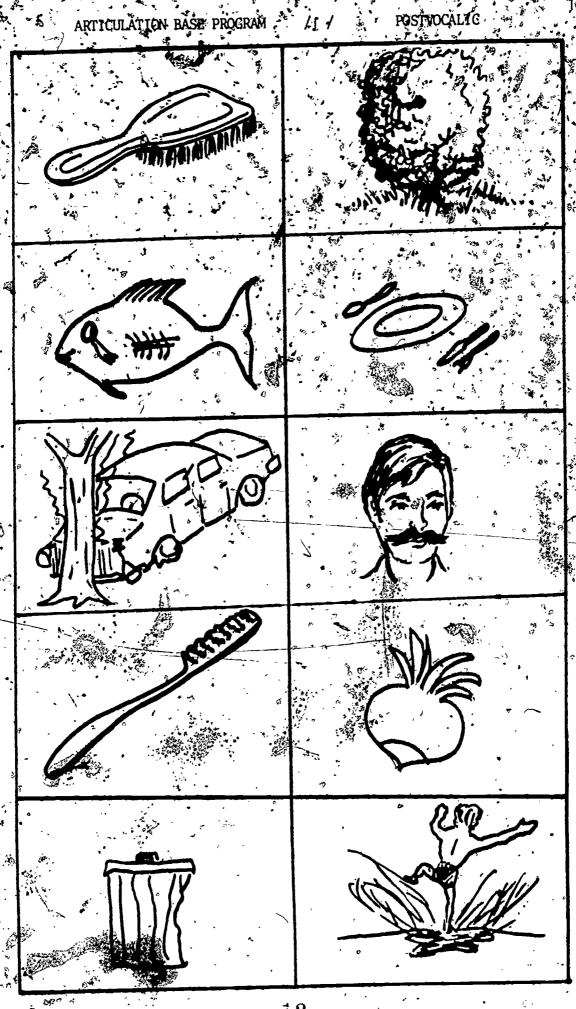
^{* / =} target phoneme

^{/-}e/ = target phoneme combined with vowel such as /ke/

•		. 1	· •
Series Step	Stimulus	Schedule	Criterion
2	(Same 10 pectures) Now you say them.	VR	10
3	Now say them again faster.	VR	10.
2 4 . 4	Present the pictures. Say: the	· VR	10 .
5	Now you say them.	VŔ	10
6	Present the pictures. Say: I see the	VR	10
7	Now you say them.	. VR	.10
8	Read or repeat key sentences.	· VR	10
E 1	Use the 10 / / pictures in the postvocalic position in words. Say:	VR	10
2	(Same 10 pictures) Now you say them.	VR	. 10
· 3 ·	Now say them again faster.	VR	10
4.	Present the pictures. Say: the	VR	10、
. . 5	Now you say them.	′ VR	. 10
6.	Present the pictures. Say: I see the	V̈́R	10
* 6 %, 7 %	Now you say them.	, VR	10 -
	Read or repeat key sentences.	VR	10 📝
	2 stories with key words. / / in all positions.	, VR	80% (correct production)
	*	· .	production/

Administer Final Criterion Test: (refer to instructions)





ERIC?

12

ARTICULATION BASE PROGRAM / 5 /

PICTURES

Prevocalic

sheep
shoe
shaver
ship
shovel
shirt
shadow
shell
shield
shopping cart

Intervocalic

parachute wishbone horseshoe flashlight dishes washing machine eyelashes fishbowl eggshells mushroom

Postvocalic

bush brush fish dish crash toothbrush trash mustache radish splash

KEY SENTENCES

Prevocalic

You can pet the sheep. Tie your shoe.
Daddy uses a shaver.
The ship sank.
A shovel is used for digging.
Jim got a new shirt.
The boy saw his shadow.
Mary found a shell.
The knight held a shield.
The shopping cart was filled with food.

Intervoćalic.

The parachute opened quickly. Did you get the wishbone?
A horseshoe is lucky.
The flashlight was broken.
Do the dishes, please.
The washing machine was full.
Mary had long eyelashes.
Who broke the fishbowl?
Mother threw the eggshells away.
John picked the mushroom.

Postvocalic

The bush was green.
Where is the brush?
He caught a fish.
Hand me the dish.
Did you see the car crash?
Put toothpaste on your toothbrush.
Take out the trash, please.
Dad has a mustache,
There was a radish in the salad.

*Stories

Key words: shiny, crayfish, wish, should, finish; splash, catfish, shut.

Five shiny cray fish swimming up the river,

The first one said, "I wish I were bigger."

The second one said, "We should beware of a net."

The third one said; "They won't finish me yet!"

The fourth one said, "Let's splash away fast!"

The fifth one said, "I don't wish to be last."

Then SNAP went a catfish

And his jaws shut tight.

He ate the 'ive shiny crayfish

In one big bite.

Key words: Chicago, vacation, Shirley, fish, fishpole, she.

One day, a little girl from Chicago went on a vacation with her family.

Shirley and her father had tried to catch fish all week, but they just wouldn't bite. On the last day, they were sitting in the boat when Shirley saw her fishpole bend way down to the water. She was so excited when she pulled a big fish into the boat. When Shirley returned to Chicago from her vacation, she bragged that she caught the biggest fish on ber very own fishpole.

-13-RECORDING SHIFEE

	CLIENT:	·	PINOCEAN (* ,
, ,	CLINICIAN:		X = CORRECT RESPONSE	
•	SUPERVISOR:	, , ,	O = INCORRECT RESPONSE	•
Date	Reinforcement Schedule	Step1 2 3	4 5 6 7 8 9 10 11 12 13 14 15	Min. / Session
	 .	·——		, , ,
			╂╫╫┼┼┼┼┼┼┼┼┼	
				
	 `		╂╎╂╏╂╏╏ ╌╂╌╂╌╂╌╂╌╏	
	&	:		
				
,	·			·
			╅╏┇┋┋	
<u> </u>				·
			 	
	,			
				
	,			
'	·			
				
<u> </u>				1
				
				
		 '		
 ·				· <u>f</u>
				
				•
				
				
	•			
				•
	· ·			

		· ·		· · · · · · · · · · · · · · · · · · ·

SPEECH RESPONSE CHART

	CLÍE					<u>. </u>	•					t	•		_	SU	PER	V,IS	SOR	•				_			_				_
	CLIN		AN_				•								- `.	PR	0GR	AM_			_		<u>`</u>						•	,	_
•	40			T	Ι		T	$\overline{\Gamma}$	T	Π	Τ	Ι.	T	Т	Г	7	Т	Т		T	Т	ŀ		1	1.	Т	T	 	1	_	
					Ŀ								L												1						
			L		L		L				L	L						L		L	L					L		<u> </u>		·	
		L							.							ŀ										l					
	20												ľ				ľ			Γ				T	T	T	T	T	Ħ	П	
		-	-	-	H	\vdash	ļ.	-	-	\vdash	┞	-	┡	ľ-	-	╀	╀	Ŀ	ļ.	Ł	-		<u> </u>	┞	┡	╀	╄	╀	╀		
																								ر	1			١.	.		
•	10	L					3		·			L	L			L	٧							Ľ	L	L	Ļ	L	L		
	8												E		Ē	Ē			Ш	Ш					E		E	E			
Ξ		E						E		E		E		E						H			Ш				E	F			
=	b		Ш			Ш							E	Е		\vdash				Ш			Ш		E	E	E	E			
ER /			H			<u> </u>	\vdash	\vdash	\vdash	\vdash	\vdash	\vdash	\vdash	_	-	H	-					Н			\vdash		F	F		\vdash	
£ \$ 3	4.	\vdash							L,	Ļ			ļ.	Ļ									Ш		匚	L	ļ.,	匚			
کر د		H				Г	\vdash	\vdash			Ι-	 	\vdash		\vdash	\vdash		\vdash	\vdash	·	-	\vdash		┝	-	\vdash	H		-	\vdash	\dashv
E \$ P (۰ م			П				Г	7										·		Н					T			٠.	Н	\exists
Σ,	·	П												<u> </u>		\vdash										1			H		\dashv
SPEECH RESPONSES PER MINUT	2	H		Н					一					\vdash	\vdash		\vdash	Н	\vdash	Н	_	Н		-	-	\vdash	\vdash			\vdash	ᅱ
S.		Ц			Ц									L	L										L	Ŀ					
	·		٠												•			,	٠,٠												
	1																	<u>.</u>								٠					٠.
	U							Ш					Ш	Ш			Ш				Ш			Ш							\exists
	.8				\exists								Ш				Ш								Ш	-				\equiv	\exists
	.6				\dashv																									\exists	\exists
		H			7										·														口	} }	
	.4																													\exists	\exists
	0	-		_	_	=	\equiv					Ħ	H		-	-				=		- 1								=	\exists
	´ ().	1 2	2 3	. 4	,	3 / i	.	- ;	3	, 1	0 1	'i i	2 1	3 1		5 1		- 1	3 1	, ;	0 / 1	1.	2	1	1 .	5 .	6 2	? 2	B 29) <u> </u>
					•												1ON		,					;			•				١,
		•											TE:	ITE	NG	IN	FNR	mat	TO	V				•							

<u>Date</u>	, <u> </u>	Rate	- (0)	Rate	Error Response Rate
, - `	Base Rate		•	•	
	(1) Sample (2) Items	 			,
	Post-Test	•	•	,	·
	<pre>(1) Sample (2) Items</pre>	<u> </u>	•		·



ARTICULATION BASE PROGRAM /k/ and /g/

- .I. Determine the base rate information and record it at the bottom of the Speech Response Chart under Testing Information.
 - A. Sample results of conversational speech sample (see Program Definitions)
 - B. Items results of Sound Production Task (page 5)
 - Therapy is indicated when the conversational speech sample shows less than 80% correct production of the target phoneme and correct production of the Sound Production Task is less than 24.
- II. Shape sound in isolation (series A Step 1) and proceed through Series and Steps as outlined in the program.
- III. When beginning the new sound, it may be necessary to review several steps before proceeding with new steps. However, this is left up to the discretion of the clinician.
- IV. Criterion for Branching
 If at any time the child's performance falls below an 80%
 correct response rate the Clinician should branch.
- V. Recording Responses and Graphing
 - A. Record correct and incorrect responses on the Recording
 Sheet. Convert the scores into rates/minutes and plot the
 Total Response Rate and Error Response Rate on the
 Speech Response Chart.

- 1. Total Response Rate number of responses number of minutes in class.
- 2. Error Response Rate <u>number of incorrect responses</u> number of minutes in class

An 80% or better correct response rate is indicated if the distance between the total response rate and the error response rate is two inches or more apart on the logarithmic graph. (Speech Response Chart).

- VI. The program is terminated when series F is completed. Key words in stories are elicited through questions by the clinicians and the story is retold by the child at a level of 80% or better correct response rate.
- VII. Final Criterion Test administer the Sound Production Task.

 Criterion for passing is 24 out of 30 correct repetitions or reading of items. Engage the child in three minutes of conversational speech relevant to the stories in series F. Criterion for passing is 80% or better correct production of target phonemes.
 - A. Record scores at the bottom of the Speech Response Chart under
 Testing Information Post Test.
 - 1. Sample results of conversational speech sample.
 - 2. Items results of Sound Production Task.

Program Definitions

1. <u>Criterion</u> - Suggested number of consecutive correct responses required to allow progression to the next step or series. Criterion levels may be adjusted by the clinician.

- 2. Branching Repeating an earlier step or series or the use of appropriate supplementary work.
- 3. Conversational Speech Sample Counting of correct and incorrect target phonemes during a three minute period of the child's
- conversation. Clinician's remarks during this time should be restricted to the asking of leading questions.
- 4. Sound Production Task A series of isolated sounds, syllables, words, phrases, and sentences which include the target phoneme.
- 5. CRE Continuous Reinforcement
- 6. VR Variable (ratio or interval) Reinforcement schedule as determined by the clinician.

ARTICULATION BASE PROGRAM /k/ and /g/ 30. Item Sound Production Task

- 1. take off
- 2. blue collar
- 3. Don't tell Ken.
- 4. boy's camp
- 5. /k/
- 6. Mike
- 7. I will keep my promise.
- 8. good king
- 9. /ek/-
- 10. /ik/
- 11. /ku/
- 12. Who has a comb?
- 13. waken
- 14. He has an open collar.
- 15. /ko/
- 16. baking
- 17. When can you go?
- 18. He flies a kite.
- 19. I will serve Coke.
- 20. chicken

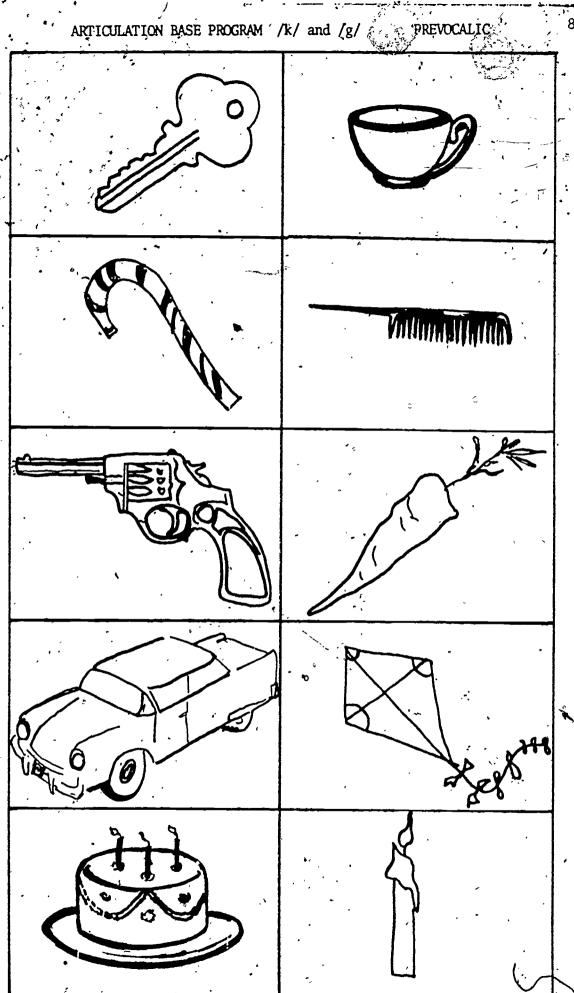
- 21. donkey
- 22. The police catch robbers
- 23. come
- 24." silver canoe
- 25. Tom came home.
- 26. rocket
- 27. Do you have a pet canary?
- 28. Have Peg call you.
- 29. candy :
- 30. blanket

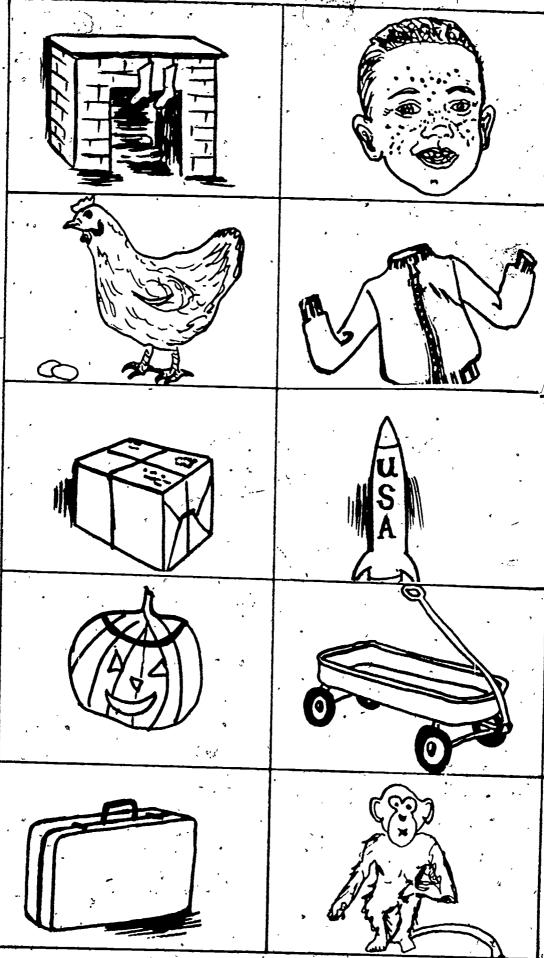
lene see	Seminus	Schedule Criterion
	Shape sound in ise tron.	CRF
		CRE
	say it by yourself.	CRE
В	Say Say real yourself	CRE 3
	Sav /e-/ Sav it by yourself	CRF 3
3.3	e-/	CRF
	Say it by yourself. This exercise can be done with	CRF 5
	other vowels per need of client.	
· C	Use the 10 / / pictures in prevocalic position in words.	CRF 10
2	(Same 10 protures)	
	Now you say them	VR VR
3	Now say them again faster.	VR. TO
	Present the pictures.	VR 10
5	Now you say them.	VR 10
5	Present the pictures. Say: I see the	VR 10
7	Now you say them.	VR ≥ 10°
8	Use the 10 / / pictures	VR 10**
υ·· 1.	in the intervocalic position in words.	
	Say:	VR 10
* / / = targ	et phoneme	

/ / = target phoneme

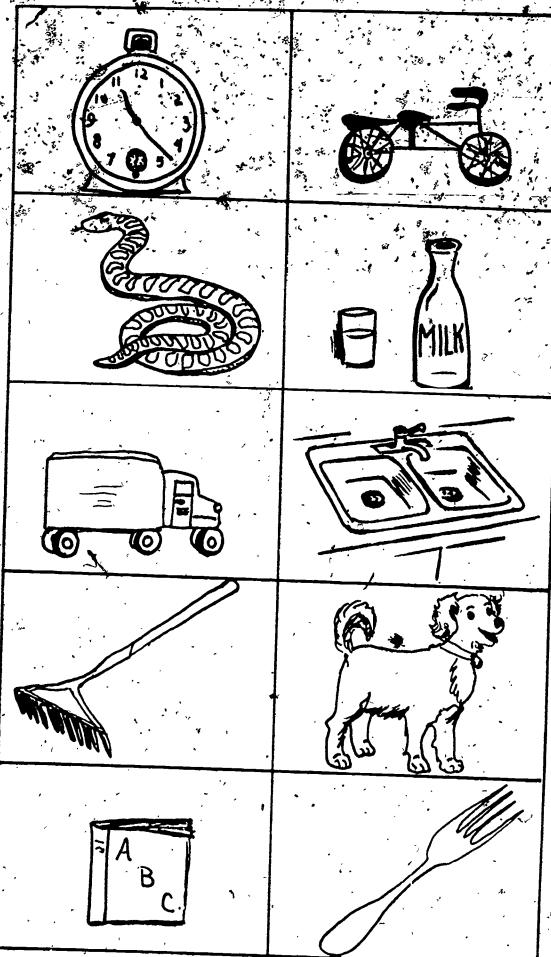
/-e/ = target phoneme combined with vowel such as /ke/

Series	Step	Stimulus	Schedule	Criterion
* *	.2	· (Same 10 pictures) Now you say them.	VR	10
			-	10 .
	3	Now say them again faster.	VR	10
	4. *	Present the pictures. Say: the	VR	10.
• •	5	Now you say them.	VR	10
***	6	Present the pictures. Say: I see the	»₅`. VR	10 (
•	·7 ·	Now you say them.	VR	10
	8 . ,	Read or repeat key sentences.	· VR	10 · ·
E.	1	Use the 10 / / pictures in the postvocalic position in words. Say:	, VR	10 🐾
مهر نسطهٔ ۱۸۰۰ برانم برد و در مور	2	(Same do pictures) Now_you say them.	VR	. 10
	3	Now say them again faster.	VR	10
	4 :	Present the pictures. Say: the	· VR	1.0
est so	<u>5</u> چ	Now you say them.	VR	10
	6	Present the pictures. Say: I see the	VR	10
•	7	Now you say them.	VR	10
	8	Read or repeat key sentences.	.VR	, 10
F .		2 stories with key words. / / in all positions.	VR	80%
,			•	(correct production)
G	• • •	Administer Final Criterion Test: (refer to instructions)		





24



25

ARTICULATION BASE PROGRAM /k/ and /g/

PICTURES

<u>Prevocalic</u>		. <u>Intervocalic</u>	<u>Postvocalic</u>
key	•	stocking	clock
candy cane		chicken	snake
gun		⇒ package	truck
car		pumβkin .	rake
cake cup		suitcases freckles	book - b i ke
comb	••	jacket	milk
carrot	•	rocket	sink
kite	1	wagon	. dog
candle		monkey	fork

KEY SENTENCES

PREVOCALIC

The key dones't fit.

I dropped the candy cane.
The policemen has a gun.
His car is pretty.
He ate a piece of cake.
I'll have a cup of soup.
Did you comb your hair?
She ate two carrots.
My kite is in a tree.
The candle is still burning.

I'NTERVOCALIC

There is a hole in your stocking: The chicken laid an egg. You forgot your package. I like pumpkin pie. Pack your suitcase, please. He has a lot of freckles. Is your jacket too warm? The rocket went to the moon. John pulled Mary in the wagon. The monkey is funny.

POSTVOCALIC

I can't see the clock.
I found a garden snake.
The truck has a flat tire.
Rake the leaves.
That book is funny.
Have you seen my bike?
I haven't finished my milk.
Put the dishes in the sink.
Did you see the big dpg?
Eat with a knife and fork.

ARTICULATION BASE PROGRAM / kf and /g/

Stories

Key Words: Peggy, circus, gave, cream, cone, monkey, took, careful One day Peggy went to the circus. Her mother gave her some money so she bought an ice cream cone and went to see the animals perform. She saw a monkey riding on a horse and started to laugh at such a strange sight. All of a sudden the monkey jumped off of the horse and took Peggy's ice cream cone. Peggy will be more careful the next time, I'm sure!

Key Words: Gary, crow, corn, gun, going, again, big.

Gary was a <u>crow</u> who lived in a <u>big</u> tree. Early each morning, he would fly as fast as an arrow to a field and return with some <u>corn</u>. Farmer Brown didn't want to lose his <u>corn</u> to a <u>crow</u>. One morning he waited for <u>Gary</u> with his <u>gun</u>. The <u>crow</u> was <u>going</u> to land when Farmer Brown fired one shoot. <u>Gary</u> left the field even faster than an arrow. He returned to his tree, and didn't bother that field <u>again</u>.

-13- SHEET

•	CLIENT:	ř.				<u>.</u>		राग	Ki	?4M_		••	<i>5</i> ,	_		•	•		-	_
	CLINICIAN:		,	<u>.</u>			•	χ =	= (Y)IU	ขะต	, ស	เรา	ONS	F	•				
	SUPERVISOR:	_					· •	೧ ≈	.]	NCX	rrr	CT	DE	SPA	NSE	į		•	è	
		,			5	_,	•				,		- 4			•	• . •			
	Reinforcement		,				_	_						~			чiп.	1	÷	1
Nate 1	Schedule	Step 1	2	3	4 5	6	7	8	<u>ე</u>	10	11	12	13	14	15	1	.	/ Se	ssio	<u>n</u>
	· · · · · · · · · · · · · · · · · · ·	—— <u> </u>	+	\vdash	+	Н	Н		-	-	\vdash	-	<u> </u>	-	-	┨				<u>-</u>
			\perp	П	1											1				<u>-</u> -
-			+	H	+	Н	\dashv			_	-	-	-	-	-	1				-
	·				1					,						ً [_
	, 		+-	$\vdash \vdash$	+	Н	\Box		_		<u> </u>			_		1				_
	• • • • • • • • • • • • • • • • • • • •		۲.	\dashv	+	Н		+	ᅴ		-	-	-	-	\vdash	1				-
			П		I			コ				$\overline{\cdot}$				1				_
		<u> </u>	╁┤	H	+	Ŀ	\dashv	\dashv	\dashv		\vdash	, ,		\vdash	_	ł				-
					工		\Box	\Box								1				- <i>.</i>
	· .	<u> </u>	Н	\dashv	+		\dashv	+	\dashv						_					
					\pm			\forall	1											-
	•		\prod	\dashv	Į.		\dashv	1	_		•					-				<u>-</u>
			Н	\dashv	+	H	+	+	\dashv				•		-					-
			П		T		\exists	1												∸ –
		-	H	\dashv	╁	H	+	+	4		•		_	_	-			-		-
• • • • •	,	······································			上			土					_							_
	· ′		H	-	+	H	\dashv	4	-	-						ļ		ş. ,		_ -
			H		+	Н	+	+	+		,	-						' -		-
	- · · ·		П		1	П	\downarrow	T	\Box						7					_
-,	· '	 ,	H	-	+	Н	+	+	\dashv					\dashv				- -		- 、
			П	\Box			1		\Box											<u> </u>
· · · · ·			H	-	╁	╁╂	+	+	+		,		\dashv	\dashv	•		*** ,			, .
			П	二	1	口	1	1			•			,		•				-
	 		H	\dashv	╀	H	+	-	4			-	_	_				-,-		
						П	1	1	1								-		<u>ب</u>	
· ·			╀┦	-	\perp	\coprod	-	1	4				$\dot{\Box}$	•					1	<i>7</i> / -
		 ,	H	1	╁	H	+	+	-				Ţ	1	<i>,</i>					~
	5 .		П		F	П	7	Ţ	1											<u> </u>
			[.]	\dashv	+	╁╂	+	+	\dashv				\dashv	\dashv					·	-
			口	二	I	П	1	#	コ				\Box	\Box						- -
- American de la companya della companya de la companya della comp		<u> </u> -	H	+	╀	╁╂	+	+	+	-	ţ	H		\dashv	\dashv					-
			11	\dashv	十	††	†	+	-	\exists			\dashv	1	ㅓ	. 9			-	~
			⊷ ۵.	- →	. ^	++	+	+	-			— І			ب-		<u></u>			•

SPEECH RESPONSE CHART

Date

Base Rate

Post-Test

(1) Sample (2) Items

(1) Sample

ARTICULATION BASE PROGRAM /f/ and /v/

- I. Determine the base rate information and record it at the bottom of the Speech Response Chart under Testing Information.
 - A. Sample results of conversational speech sample (see Program Definitions)
 - B. Items results of Sound Production Task (page 5)
 - 1. Therapy is indicated when the conversational speech sample shows less than 80% correct production of the target phoneme and correct production of the Sound Production Task is less than 24.
- II. Shape sound in isolation (series A Stép 1) and proceed through Series and Steps as outlined in the program.
- III. When beginning the new sound, it may be necessary to review several steps before proceeding with new steps However, this is left up to the discretion of the clinician.
- If at any time the child's performance falls below an 80% correct response rate the clinician should branch.
- .V. Recording Responses and Graphing
 - A. Record correct and incorrect responses on the Recording

 Sheet. Convert the scores into rates/minutes and plot the

 Total Response Rate and Error Response Rate on the

 Speech Response Chart.

- 1. Total Response Rate number of responses number of minutes in class
- 2. Error Response Rate <u>number of incorrect responses</u> number of minutes in class

An 80% or better correct response rate is indicated if the distance between the total response rate and the error response rate is two inches or more apart on the logarithmic graph (Speech Response Chart).

- VI. The program is terminated when series F is completed. Key words in stories are elicited through questions by the clinicians and the story is retold by the child at a level of 80% or better correct response rate.
- VII. Final Criterion Test administer the Sound Production Task.

 Criterion for passing is 24 out of 30 correct repetitions or reading of items. Engage the child in three minutes of conversational speech relevant to the stories in series F. Criterion for passing is 80% or better correct production of target phonemes.
 - A. Record scores at the bottom of the Speech Response Chart under

 Eesting Information Post Test.
 - 1. Sample results of conversational spéech sample.
 - 2. Items results of Sound Production Task.

Program Definitions

1. <u>Criterion</u> - Suggested number of consecutive correct responses required to allow progression to the next step or series. Criterion levels may be adjusted by the clinician.



- Branching Repeating an earlier step or series or the use of appropriate supplementary work.
- 3. Conversational Speech Sample Counting of correct and incorrect target phonemes during a three minute period of the child's conversation. Clinician's remarks during this time should be restricted to the asking of leading questions.
- 4. Sound Production Task A series of isolated sounds, syllables, words, phrases, and sentences which include the target phoneme.
- 5. CRF Continuous Reinforcement
- 6. <u>VR</u> Variable (ratio or interval) Reinforcement schedule as determined by the clinician.

ARTICULATION BASE PROGRAM /f/ and /v/ 30 Item Sound Production Task

- 1. Take forty marbles.
- 2. never
- 3. Pete fed a cat.
- 4. Who took his valentine?
- 5. Peter fell down.
- 6. /af/ '
- 7. pretty vase
- 8. It's a wet forest.
- 9. coffee
- 10. I had soup for lunch.
- 11. /va/
- 12. I am four minutes laté.
- 13. /f/
- 14. He is seven.
- 15. billfold
- 16. perfect 🦯
- 17. grandfather
- 18. /of/
- 19: thick fog
- 20. stove

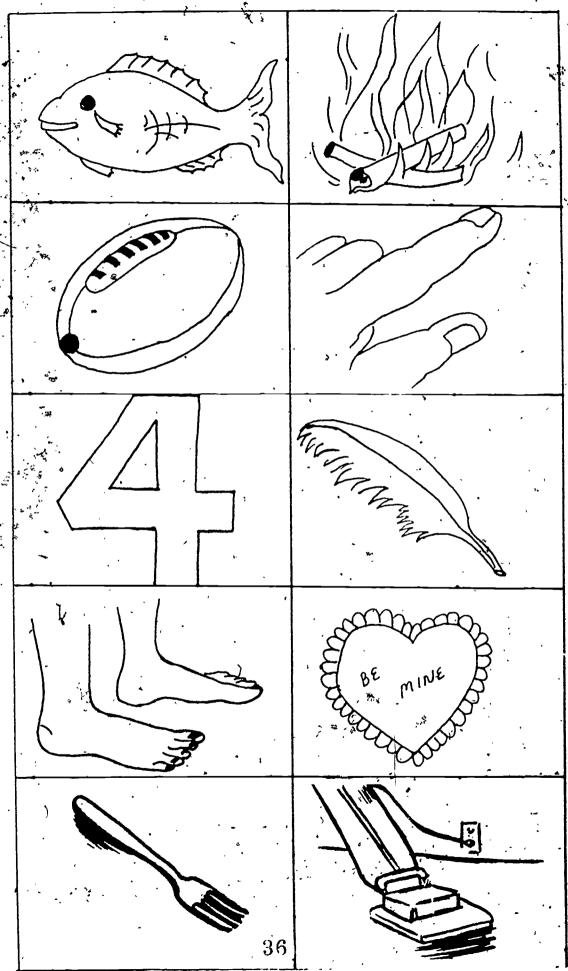
- 21. gopher
- 22. I saw a fireman.
- 23. big field
- 24. He has a fever.
- 25. fat
- 26. Did-you buy cat food?
- 27. safer
- 28. blue envelope
- 29. The man found a penny.
- 30. /fe/

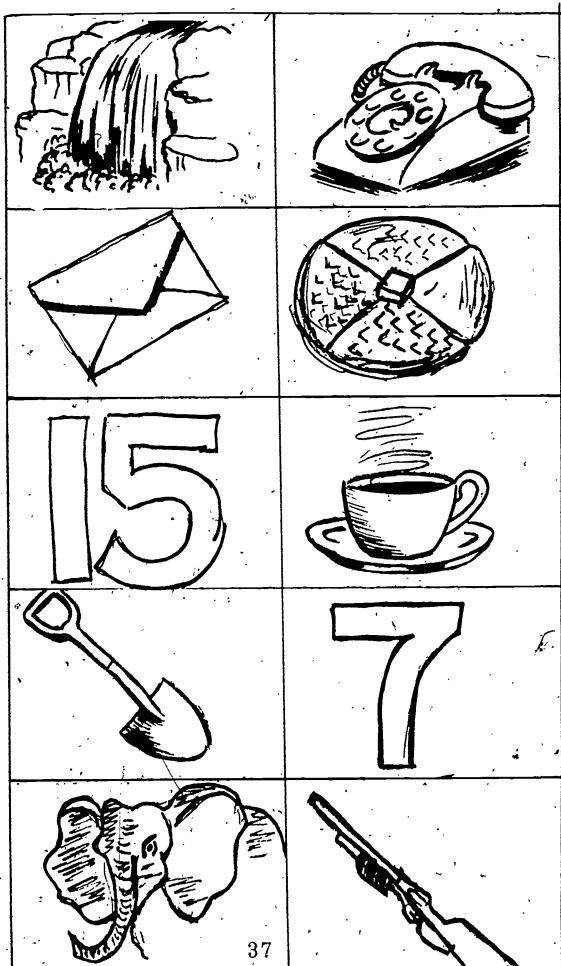
•	_	•	*	•
Series	Step	Stimulus	Schedule	Criterion
A,	: 1 :	Shape sound in isolation.	CRF	
	2	Say / /*	ĊŖĘ	15 .
	3	Say it by yourself.	CRF	15
В	1 .	Say /-e/ Say it by yourself.	CRF CRF	3 5 .
	2	Say /e-/ Say it by yourself.	CRF CRF	3 5
:	3	Say / -e- / Say it by yourself.	CRF CRF	3 5
•	4	This exercise can be done with other vowels per need of client.		
C	1	Use the 10 / / pictures in prevocalic position in words. Say:	CRF	10
•,	2	(Same 10 pictures) Now you say them.	VR	10 . 1
	3 .	Now.say them again faster.	V R ~	10
	4 \	Present the pictures. Say: The	VR	\ 10
•	5	Now you say them.	УR	10
•	6	Present the pictures. Say: I see the	VR.	10 .
	7	Now you say them.	VR	["] 10
	. 8	Read or repeat key sentences.	~ VR	10
D	.1	Use the 10 / / pictures in the intervocalic position		
^,	-	in words. Say:	. VR	10

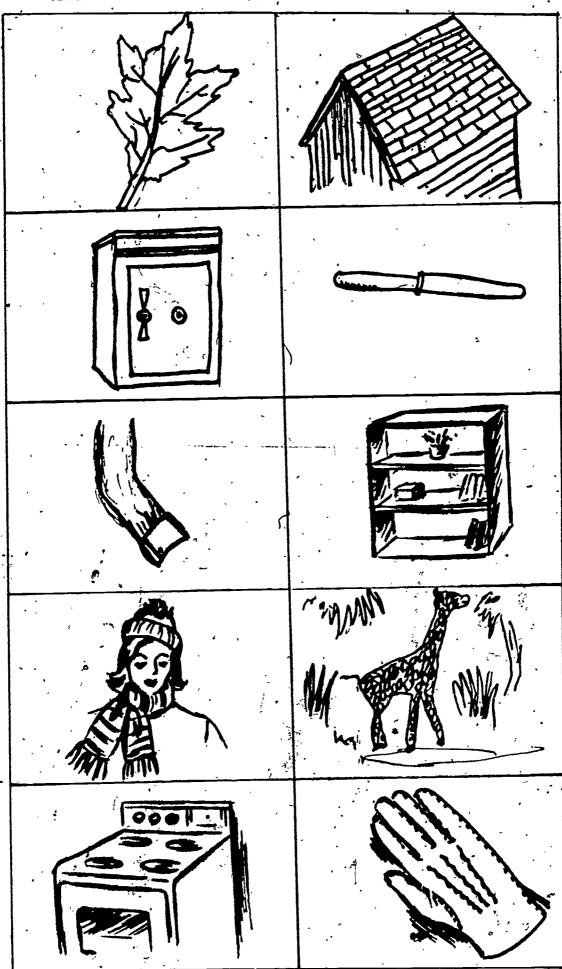
^{* / ./ =} target phoneme

^{/-}e/ = target phoneme combined with vowel such as /ke/

• '• ;			i v	
Series	Step	`Stimulus:	Schedule	Criterian
•	-2	(Same 10 pictures) Now you say them.	VR	10'
•	3	Now Say them again faster.	VR VR	10.
- • •	. 4:	Present the pictures. Say: the	LVR	10
	5 .	Now yoù say them.	VR	. 10
;	6	Present the pictures. Say: I see the	VR	10 '
•	7	Now you say them.	· VR	10
	. 8	Read or repeat key sentences.	VR	10"
Ε.	a	Use the 10 / / pictures in the postvocalic position in words. Say:	VŘ.	10
· ',	2	(Same 10 pictures) Now you say them.	VR VR	10
	3	Now say them again faster.	VR	10.
	4 '	Present the pictures. Say: the	VR	10
•	5	Now you say them.	VR	10
·	. 6	Present the pictures. Say: I see the	VR	10
· .	7	Now you say them.	VR (1 a)	ำด้
• '	8	Read or repeat key sentences.	. VR	10
F .	•	<pre>2 stories with key words. / / in all positions.</pre>	VR	.80% (correct production)
G		Administer Final Criterion Test: (refer to instructions)		







ARTICULATION BASE PROGRAM /f/ and /v/

PICTURES

<u>Prevocalic</u>	<u>Intervocalic</u>	Postvocalic.
fish football four feet fork fire finger feather valentine vacuum cleaner	waterfall envelope fifteen shovel elephant telephone waffle coffee seven rifle	leaf safe safe sleeve scarf stove roof knife shelf giraffe glove

KEY SENTENCES:

Prevocalic

Fish swim in cold water. I kicked the football.
We made four paper hats.
My feet got wet in the rain.
I eat with a fork.
Fire is hot.
I cut my finger.
Birds have feathers.
The valentine was red.
Mother uses a vacuum cleaner.

Intervocalic

We saw a pretty waterfall.
Put the letter in the envelope.
Bob has fifteen pennies.
Daddy uses a shovel.
An elephant has big ears.
May I use your telephone.
John ate a waffle.
The coffee is too hot to drink.
My dog had seven puppies.
The cowboy has a rifle.

Postvocalic.

A leaf fell off the tree.
The robbers broke into the safe.
Her sleeve was wrinkled at the elbow.
I wear'a long blue scarf in the winter.
Mother cooks food in our stove.
The cat climbed up on the roof.
The knife is sharp.
Sally put her books on the shelf.
A giraffe has a long neck.
I lost my glove.

ARTICULATION BASE PROGRAM /f/ and /v/

Stories

Key Words: Jeff, forest, fort, elephant, Rover, every, ever Jeff and his dog Rover walked out of the fort to go hunting in a big forest. He wanted to shoot a big elephant with his bow and arrow. He walked down the trail looking in every direction. Suddenly, Jeff saw the biggest elephant he had ever seen. He dropped his bow and arrow, and started to run back to the fort. As he ran, he yelled, "Come on Rover, let's get out of this forest."

Key Words: Stephen, father, football, after, very

One day Stephen and his father went to the park to play football.

Stephen wore his blue mittens and his warmest pair of boots. His father wore a light jacket. Very soon, his father's hands were too cold to play football. They had to go home and warm up with a cup of hot chocolate. After they got home, Stephen remembered that his mittens were still at the park.

Key Words: Frank, farmer, five, never, fox, farm

Frank was a farmer. He never got up early like most farmers do.

Instead of getting up at five o'clock, he would sleep until noon.

Frank didn't keep any cows or pigs or chickens on his farm. He was a fox farmer. His five foxes had nice clean pens in back of the big red barn. He never caused him any trouble, so Frank was a happy farmer.

-13-RECORDING SHEET

	CLUENT:	144 XGRAM																				
• 1,	CLINICIAN:						_	Ż	(1	= (ากเข	ĿM	Ul	SP	ŊS	F.						
-	SUPERVISOR:	-	O = INCORRECT RESPONSE																			
 Dá ta	Reinforcement Schedule Step	123456								۵	10	11	**{ 12	بر 12	114	; *LE		Min. / Session				
Date	Schedule Step	1	_	ň	1	7	1	'	<u> </u>	;; 	10	11	14	13	14	. <u>ra</u>	Τ-	<u>:</u> —	<u> </u>	C551	on	
		-	\vdash	Н	\dashv	+	+	+	ᅱ	Н		,		-		-	-					
		-	\vdash	Н	Н	+	+	≉	4	Н				-			٠,				—	
<u>`</u>				Н		+	1	7	╗	-			-	٠,	,	 	"				—	
		1				1		1					ŀ				١.		,			
						\Box	\Box	\perp													_	
		1	L	Ш		1	\perp	1										·				
		 	L	Ц	\Box	4	4	4	4	-	_			7.7		<u> </u>						
		-	H	Н	-	+	-}	4	-	_		٠,	_		,	-			 :			
	*	-	H	H	\dashv	+	+	+	⊣	•				-		\vdash	ŀ					
		-	Н	Н	7	+	+	+	┥	-	-,		-	H	-	 ,	٠.	 			_	
		-	Н	Н	-	+	+	+	┪		-				- +		\ \ \ \			<u>~</u>	<u> </u>	
-		-	•	$\overline{}$	1	7	+	+	7							_			,		_	
						T	1	T	Ì				·				1				_	
						$oldsymbol{\mathbb{I}}$	\exists	\mathbf{I}	\Box							·		_			_	
		1		Ш		1	1	1		1	3e4f			j~(.)	•							
	- #	<u> </u>		Ц	Ц	4	4	4	4		ر ش م				**	بو	٠.				<u></u>	
		,}		Н	H	-	+	+	4	Ļ		-					•			'	<u>. </u>	
	·	1-		-	Н	+	\dashv	+	+	-	2	H				,					 •	
`		-	\vdash	\vdash	Н	\dashv	7	╁	┪			-									 ,	
		·	Н	\vdash	H	+	+	+	+				_			-	1				-	
 .		<u> </u>			H	7	7	7	7	\neg					-		٠.	-	٠.		چ وند	
•				•			I	T	\Box		-				į		-		-		_	
	· · · · · · · · · · · · · · · · · · ·				\Box	_	\Box	I	\Box		3							. —			_	
*		 	Ŀ	<u> </u>	Ц		4	1	4	-						<u> </u>	, ,		د			
	· — — — — — — — — — — — — — — — — — — —	<u> </u>	Ŀ	<u> </u>	싞	4	+	4	4			<u> </u>	<u> </u>			14.3						
 ,		-	-	<u>, </u>	Н	+	\dashv	ť	+				-	, -	_	نور	٠					
		<u> </u>		┝	H	+	╗	+	Ť				- 3	-	,		,					
+ 7			!	一	H	7	1	T	÷			. 7	37.	-	ج.د	0	1					
					П			1	1			-			ŕ			,	7			
					\prod	\Box		T	$oxed{I}$								•			-	<u>:</u> .	
			L		Ц		ľ	1	1								•	4				
-	· <u>· · · · · · · · · · · · · · · · · · </u>	 	Ľ	_	14	_	Ц	-	4	_			L.			-					<u></u> ,	
'		-	L	<u>.</u>	H	_	1	4	+	_		<u> </u>	_		_		\					
		 	-	-	H	-	H	+	4	$\dot{-}$		-	├	l ,	<u> </u>				· 1			
		 		-	H	-	┢┪	+	9	.		\vdash	<u> </u>	\vdash	-	\vdash		<u>. —</u>				
				Н	$\dagger \dagger$	-	H	+	1		-	\vdash	<u> </u>		┝┯			:				
 .			Н		$\dagger \dagger$	\dashv	H	†	+	_			-	_		M						
					丁			1]													
					Ц	_	Ц	\perp	I								-					
			Ľ	L	Ш		Ц	1	1			<u> </u>	<u> </u>	_							<u>.</u>	
· ·		L			Ц,		Ш	1		•		'	,					,	٠,			
		.,%			*,*		• •	_	•	-			7		1	 -	, ``	·			-	
			-														-			-	, .	

SPEECH RESPONSE CHART

CLIENT								SUPERVISOR																							
CLINICIAN									_ PROGRAM																						
4	۱,	`		F	Į.		H	L	F	F					F	L	L	,		F	-	E	F		F	Ŀ	-				F
.		,	·		,		T			T			·	•		 		-	,				-		†		-	•		-	┢
•		. /		·		,				,		·	1		w543.			·		Γ	Γ					Γ	-				•
T .	20					,	·				,					,				Γ											F
	٠	-	H		T		-			•		H	-	Ė	H			-	H	r				\vdash					\vdash		H
1	0	,		Ĺ							(ŀ						,			, 4			·		Ŀ
	8												ĽН		Ш				Ш				Ш			ШШ					
				Ш		E		E		E	E	,				E		E	E	E			Ш			Ш		Ш			E
	6						E	E	E		E	E	E	405	E	ŀ	E	E	E	E				E		E				; 	F
	4							÷			·		र्छ	· •			E					,			· .						F
	٦									Ę						F													0	ļ	
			-	ŀ		<u> </u>	Ė	H	Г	-									H					,			,				_
	2				,	·		. ,	٠						·	. /									·			ž	·		Ė
							Γ	ŀ																	•		١.	•			
	١,			7		ŀ	,	r						•	一		Γ	۰			\vdash					•				•	
	1				1							ĺ						٠	•						٠		۷.				
	8							Ш	Ш		Ш	Ш	[[]		Ш					Ш								HEI			
										Ш		Ш	Ш		Ш		Ш	Ш	Ш	Ш		Ш									Ξ
•	6	i L							E	•	7				II.					П.											
	4			·					7	7														,	•	·	, ,				
١.	0 1									#	F				H						\prod	H] [
43	0		r i	2. (3. 4	1	5,	6	7	8	9 .1	0 1	1 1	2 1	3 1	4 1 ESS	5 1 ION		7 1	8 1	9 2	0 2	21 2	2 2	3 3	i' 2	5 2	6	7 2	8 2	4
R L		٠.	4.	ı	-	١,	•	. 1	•	•			TE:	STI		IN			ŗĮO	N	e ·	٠.			•		•				
ا پانچان در) n / r gag	2	3			`				To	Stá	1 R									Res	SDO	nse	<u> </u>	É	rro	or	Res	por	ıse	: :
والمزيزة	D	ate	<u>.</u>	D s	<i>,</i> ,	: "Da	+0				مجره 	Rat	:е ⁻							ct Rat	e_						Ra	te			
, ,		~	- .		(1) ·S	amp	i] _e					•			•		,	_		,	_	•	,		, _	-	•			•
, • · · ·		:		٤٠.	(2)			ns 😘		13,	<i>,</i> .							•	. –			`	,			-					
٠,	*	,	;	Po	st. (1			ol,e		٠,				•	-				-	,									•		
٠,	<u>~</u>	.,	_		(2	, ,]	ten	ns					-	•,	*	<u>~</u>			_		,	_ _`				-					

42